

*Quarterly Economic Forecast Update***Arizona Economy to Move Forward Through 1989**

The Economic Outlook Center (EOC) expects Arizona and the Phoenix metropolitan area, still in the throes of a major building-industry "correction," to expand at a relatively subdued pace through the remainder of 1988 and 1989. Next winter it should become increasingly clear whether the state and the nation can continue to stave off a recession until after the 1990s arrive.

Recent statistical evidence suggests the U.S. economy continued to show strength through the first half of 1988, extending the longest peacetime business expansion in the nation's history. In spite of the

deep slump in construction, Arizona's economy also has moved ahead this year, but by many measures it has failed to match the sanguine economic performance of other regions of the country.

The Arizona Index of Leading Economic Indicators (see page 6), which accurately foreshadowed the sharp reduction in the state's growth rate last year, indicates there is little risk of a major downturn during the remainder of 1988. It also implies there is little chance of a major rally by the Arizona economy in the months ahead.

THE NATIONAL ECONOMY

The customary better-than-expected news on the nation's recent economic track record was repeated with the release of the revised first quarter GNP statistics. The latest report showed a robust advance of 3.9 percent in real output during first quarter 1988, up from the original estimate of 2.3 percent.

As usual, the figures were revised upward mainly to reflect the growing prowess of America's export-driven

manufacturing industries. This pattern was not unexpected; trade statistics are among the last to be tabulated and the most likely to be incomplete or inaccurate in preliminary reports. Growth rates for the prior three quarters also were revised upward, partly based on somewhat higher consumption spending and lower imports than previously reported.

The response of most economists falls somewhere between vindication and relief. The appropriate reaction should be, "It's about time!" The exchange value of the dollar peaked in winter 1985; the yen has doubled in value against the dollar since then. Had the export data not shown significant improvement by now, a consensus of business economists doubtless would be predicting a recession, perhaps a severe one, in the near term.

The major implications of the improving export picture include a brighter outlook for corporate profits. This should have a positive effect on

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ARIZONA BUSINESS

business investment expenditures during the next several quarters, another auspicious development for U.S. manufacturers. Stronger profits also may lead to higher wages and salaries, bolstering personal income and spending growth.

It is almost incredible that U.S. imports have climbed steadily (and

at times rapidly) during the last three years. Consumers have defied traditional measures, such as debt-to-income ratios, savings rates, rising prices and other yardsticks used to predict spending behavior, to display an astronomical propensity to purchase more goods and services.

The nation's consumption sector re-

sembles nothing more than an imploding black hole; maybe astronomers would have better luck than economists in gauging when, or if, the American consumer will be sated.

THE U.S. OUTLOOK

The EOC's forecast for the U.S. economy is summarized in Table 1. The forecast has been upgraded to account for the splendid performance in the early months of 1988. Most of the uncertainty surrounding the short-term outlook centers on monetary policy. With the presidential election several months away, policy makers are being challenged to balance fears of inflation with a desire for continued economic growth. While they have been successful in doing so during the first half of 1988, modest increases in the inflation rate and interest rates are anticipated through the end of 1988 and 1989.

The surge in exports is expected to add to industrial growth, while higher prices for imports also should help to reduce the trade deficit and allow U.S. producers to command a larger share of the domestic market. One potential side effect may be that American firms will leverage their improved competitive position to obtain higher prices and profit margins rather than larger market shares. Another risk is the possibility that slower growth among our trading partners could curtail the export boom prematurely. On balance, however, the forecast predicts a relatively smooth ride for the U.S. economy during the next six to twelve months.

The nation experienced a surge in home building during the early months of 1988. This may have been induced by the prospect of rising mortgage rates accelerating purchases that would have taken place later in the year. In some of the hotter markets, particularly in California, soaring home prices are causing affordability to deteriorate, forcing some first-time buyers to the sidelines. This combination of circumstances has resulted in a slight reduction in the predicted national rate of housing starts to about 1.5 million per year.

THE ARIZONA FORECAST

The state's economic statistics for the early months of 1988 add up to

TABLE 1
1988 AND 1989 ECONOMIC FORECASTS: UNITED STATES

	Actual 1987	Forecast 1988	Forecast 1989
Gross National Product			
Millions of 1982 Dollars	3,821.1	3,937.0	4,019.7
Percent Change	2.9	3.0	2.1
Industrial Production			
Percent Change	3.8	4.5	1.9
Net Exports			
Billions of 1982 Dollars	-135.5	-113.4	-87.9
Housing Starts			
Number in Millions	1.63	1.52	1.50
Percent Change	-9.9	-6.7	-1.3
Unemployment Rate			
Percent	6.2	5.7	5.8
Consumer Price Index			
Percent Change	3.6	4.5	4.7
Three-Month Treasury Bill Rate			
Percent	5.8	6.1	6.5
Aaa Corporate Bond Rate			
Percent	9.4	9.7	10.0

TABLE 2
1988 AND 1989 ECONOMIC FORECASTS: ARIZONA

	Actual 1987	Forecast 1988	Forecast 1989
Gross State Product			
Millions of 1982 Dollars	48,155	50,288	52,255
Percent Change	4.6	4.4	3.9
Personal Income			
Millions of Current Dollars	47,502	51,004	54,627
Percent Change	6.2	7.4	7.1
Retail Sales			
Millions of Current Dollars	18,001	19,048	20,016
Percent Change	4.7	5.8	5.1
Unemployment Rate			
Percent	6.3	5.8	6.3
Wage and Salary Employment			
Number in Thousands	1,383.7	1,429.1	1,471.1
Percent Change	3.4	3.3	2.9
Population			
Number in Thousands	3,405	3,491	3,580
Percent Change	3.1	2.5	2.6
Single-Family Units Permitted			
Number	27,360	23,125	20,470
Percent Change	-19.7	-15.5	-11.5
Multifamily Units Permitted ¹			
Number	12,038	7,950	6,780
Percent Change	-55.4	-34.0	-14.7

¹Apartment complexes of three or more units

Source (Tables 1 and 2): Economic Outlook Center, College of Business, Arizona State University

a checkered record. Some encouraging trends have emerged, while some nagging problems have persisted. The most auspicious development was signs of renewed vigor in the manufacturing sector. On the negative side, the construction slump reached dreadful proportions.

Tables 2 and 3 summarize the Economic Outlook Center's forecasts for Arizona and Maricopa County. The forecasts are similar to those which appeared in the April 1988 issue of *Arizona Business*. Projections for some sectors have been modified to account for changes in local conditions, while others reflect the improved outlook for U.S. exports and manufacturing activity.

Construction

Although Arizona's economy has managed to avoid a slump resembling the recession of the early 1980s, the depressed construction sector continued to decline during first quarter 1988. Overbuilt conditions in the commercial and office segments of the market have persisted for several years, and by most measures, the metropolitan Phoenix office vacancy rate remains well in excess of 20 percent. Naturally, this has tended to retard the development of new projects. Multi-family housing construction, virtually nil early this year, still is very soft, with vacancy rates in the mid-teens and tax reform among the main reasons.

All of these factors help to explain the plunge in construction employment from its summer 1986 peak of 117,300. Since then, more than 23,000 construction workers in Arizona have lost their jobs.

The job losses are expected to continue but not at the pace observed over the last two years. Employment in the industry fell by "only" 500 during April, about one-half the average monthly loss registered during the downturn.

The weakness apparent in the commercial and multifamily markets has spread to the single-family segment. The Tucson area has been especially subdued, but Maricopa County, generally one of the nation's most vibrant markets, also has felt the pinch. The 18,000 units authorized in 1987, a healthy figure by most standards, represented a drop of nearly 25 percent from the prior

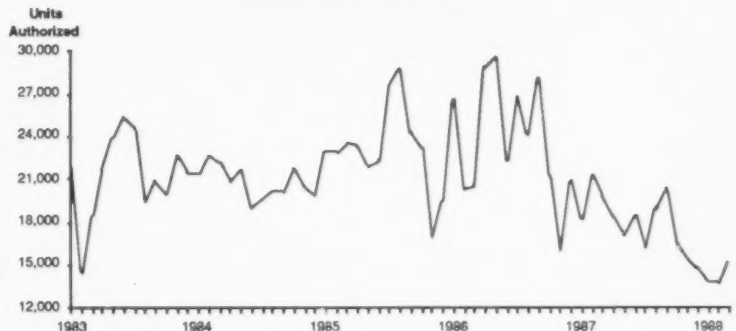
TABLE 3
1988 AND 1989 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual 1987	Forecast 1988	Forecast 1989
Consumer Price Index			
Percent Change	4.1	4.6	5.0
Retail Sales			
Millions of Current Dollars	11,743	12,402	12,990
Percent Change	3.5	5.6	4.7
Unemployment Rate			
Percent	5.2	5.1	6.1
Wage and Salary Employment			
Number in Thousands	912.7	943.5	974.6
Percent Change	3.4	3.4	3.3
Population			
Number in Thousands	1,970	2,023	2,076
Percent Change	3.6	2.7	2.6
Single-Family Units Permitted			
Number	18,012	15,220	13,650
Percent Change	-24.5	-15.5	-10.3
Multifamily Units Permitted¹			
Number	9,106	6,100	5,420
Percent Change	-50.3	-33.0	-11.1

¹Apartment complexes of three or more units

Source: Economic Outlook Center, College of Business, Arizona State University

FIGURE I
MARICOPA COUNTY SINGLE-FAMILY HOUSING UNITS AUTHORIZED
January 1983 through March 1988
(Seasonally Adjusted Annual Rate)



Source: Arizona Real Estate Center and Economic Outlook Center, College of Business, Arizona State University

year. This year, in spite of some improvement in the early spring (see Figure I), another decline of more than 15 percent is projected.

Population

The primary reason for the boom-bust cycle that has characterized Arizona's housing sector in recent years has been the volatility of population flows. In-migration to the state advanced rapidly as the state pulled out of the recession in early 1983. The growth rate accelerated during the mid-1980s because the

industrialized regions of the Great Lakes states, traditional feeders of new residents to Arizona, were slow to participate in the economic expansion, spurring many job seekers to move here. In addition, energy-dependent magnet states such as Texas and Colorado, crippled by plummeting oil prices, supplied more job seekers to Arizona and failed to attract their usual share of migrants from other states.

Rapid employment growth has caused thousands of people to flock to the state in recent years; how-

ever, for the next few years at least, a slower rate of job creation will yield relatively moderate rates of migration to Arizona. Figure II illustrates how growth of the Arizona labor force (seasonally adjusted) has fluctuated widely during the business cycle. Arizona's labor-force totals are somewhat subject to statistical vagaries related to a relatively small sample size, but there is little doubt the rate of growth slowed substantially last year. A variety of evidence – new electrical connections, slowing absorption of apartments, independent population estimates, slower retail sales growth, etc. – tends to corroborate this conclusion: The population gains of the mid-

1980s were aberrant, and the current and future rate of growth will be substantially slower. The population forecast calls for growth rates of about 2.5 percent per year (still more than double the national average) for Arizona in 1988 and 1989, well off the 4-percent-plus pace of a couple of years ago. The growth rate may rise a bit during the 1990s, but it is unlikely it will average more than 3 percent per year, and it may be considerably less.

Employment

Table 4 gives an industrial breakdown of the Economic Outlook Center's employment forecast for Arizona through the end of the dec-

ade. Overall, the growth rate is expected to average 3.3 percent this year, similar to the 3.4 percent increase in 1987, but well below the respective increases of 9.7, 8.2 and 4.6 percent registered in 1984, 1985 and 1986. The aforementioned slump in construction will continue to yield losses averaging 8.2 percent in 1988 and 1.2 percent in 1989. Although manufacturing finally began to rebound earlier this year, job gains are predicted to remain modest – less than 2 percent per year. Weakness in defense-related manufacturing is offsetting much of the improvement that is developing in the advanced-technology sector. Corporate mergers and reorganizations also have tended to inhibit hiring activity among some of the larger firms located in the state.

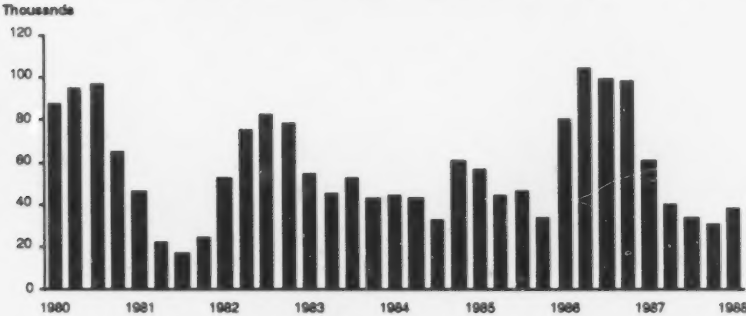
The widely publicized deficit plaguing the state budget is expected to limit the growth of the government sector. Even so, increases averaging about 3 percent are anticipated. As long as population and school enrollments continue to grow, local governments and school districts will add employees to their payrolls to accommodate the growth.

Personal Income

Unfortunately, smaller population gains only partially explain why Arizona personal income growth lagged last year. Preliminary estimates released in May indicate personal income in the state grew 6.2 percent in 1987, 3 full percentage points less than the rate posted in 1986. Several of the relatively well-paying industries – specifically, construction, manufacturing and finance, insurance and real estate (FIRE) – either declined or expanded slowly last year. Wage adjustments based in part on the Consumer Price Index were suppressed by the unusually small increase (due to falling oil prices) recorded during 1986.

The prospects for personal income growth are not much better through 1989. Employment growth is expected to average little more than 3 percent during the forecast period, somewhat less than in recent years, although inflation-related growth could push the rate of income growth higher. Construction employment is still sliding, and the FIRE and TCPU (transportation,

FIGURE II
ARIZONA LABOR FORCE GROWTH
First Quarter 1980 through First Quarter 1988
(Net Change from Same Quarter One Year Earlier)



Source: Arizona Department of Economic Security

TABLE 4
ARIZONA EMPLOYMENT FORECASTS
FOR 1988-1989 (thousands)

	1987	Percent Change	1988	Percent Change	1989	Percent Change
Manufacturing	187.2	1.4	190.2	1.6	191.1	0.5
Mining	11.4	3.6	11.9	4.4	12.0	0.8
Construction	102.4	-9.5	94.2	-8.0	93.1	-1.2
TCPU*	72.0	9.3	75.1	4.3	78.3	4.3
Trade	339.5	4.3	356.5	5.0	369.6	3.7
FIRE**	94.4	6.2	96.7	0.3	97.3	2.7
Services	343.9	6.2	365.8	6.4	382.4	4.5
Government	232.9	3.5	240.7	3.3	247.3	2.7
Total Wage and Salary Employment ...	1,383.7	3.4	1,429.1	3.3	1,471.1	2.9
Total Employment	1,513.0	3.4	1,559.0	3.0	1,602.0	2.8
Total Unemployment	101.0	-7.3	96.0	-5.0	108.0	12.5
Labor Force	1,614.0	2.7	1,655.0	2.5	1,710.0	3.3
Unemployment Rate	6.3		5.8		6.3	

*Transportation, Communications and Public Utilities

**Finance, Insurance and Real Estate

Source: Economic Outlook Center, College of Business, Arizona State University

communications and public utilities) sectors, which pay relatively well, are growing very slowly compared to the last several years.

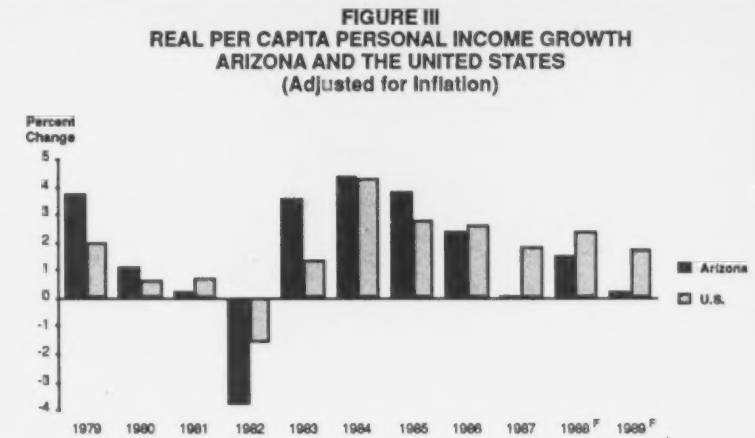
The latest figures on state personal income confirm a disturbing trend. Figure III shows the relationship between real per capita personal income growth for Arizona and the United States. After adjusting for inflation and population growth, personal income in Arizona has consistently lagged the national average. Personal income in the state reached about 95 percent of the national average during the 1971-1972 period. In 1987, per capita income in Arizona was just 91 percent of the national average.

In general, the only periods during which the state gained ground against the nation coincided with major expansion in the mining industry, which is characterized by high wages. Since mining no longer represents as large a share of the Arizona economy, its influence on income growth has waned. Technological advances suggest future growth in the industry will not yield significant employment and wage gains, since modern production methods are much more capital-intensive than in the past.

SUMMARY

Most forecasts for Arizona and the United States made in the last two years have been reasonably accurate. Therefore, there is little reason to make sweeping changes to the Economic Outlook Center's forecast at this time. In general, the nation's economic performance has been somewhat better than expected, while the state has performed slightly below expectations. The disproportionate dependence of Arizona on its slumping construction industry is largely responsible for the disparity.

In spite of the stability shown by the global and regional economies, a high level of uncertainty remains. In the weeks following last autumn's stock market debacle, there was widespread fear that a recession could begin from a variety of sources. Soaring interest rates, falling investment spending, massive layoffs in the financial sector and diminished consumer confidence were just a few of the potential conse-



F = Forecast

Source: Economic Outlook Center, College of Business, Arizona State University

quences of the crash that did not materialize. Nor did the dreaded recession.

The U.S. economy emerged from the October crash in remarkably fine shape. Exports are climbing, factory utilization is increasing, durable goods orders are strong and consumer spending remains high. Nevertheless, while most analysts have dismissed the prospect of a 1988 recession, many believe a recession could begin in 1989. Most concern revolves around the chances for rising inflation, surging interest rates and a falling dollar. This forecast envisions more of a "soft landing" than a recession next year, but it does not reject the possibility that one could develop within the next 12 months.

The outlook for Arizona and the Phoenix area is similar. The economy will keep moving forward, but a robust expansion like that of the mid-1980s will not occur until the overbuilt construction industry turns around. While that might occur as early as next year, it is very unlikely. Surplus office and apartment space and a forecast of gradually increasing interest rates should combine to reduce the pace of new construction until the 1990s.

The state's manufacturing sector represents the key element during the second half of 1988. Defense contracts were responsible for generating much of the manufacturing growth in Arizona during the last several years. Spending cuts already have had a significant impact

on hiring activity. This trend is unlikely to reverse without the relocation of manufacturing operations from other states.

If the nation's export boom continues unabated, the chances increase that Arizona will experience better growth than these forecasts would suggest. However, the slow response observed to date in the state may imply that the current pattern of subdued growth will persist for the remainder of 1988 and 1989.

— Brian Cary
Senior Research Economist
Economic Outlook Center

Charge for Research Reports

Due to budget constraints, requests for free copies of the research reports produced by the Center for Business Research and the Arizona Real Estate Center can no longer be honored. Beginning July 1, 1988, a standard price of \$5.00 per report will be charged for handling and reproduction costs. Readers will continue to be notified of the publication of new reports in *Arizona Business*. A complete list of Center for Business Research and Arizona Real Estate Center publications is available on request by mail or by calling (602) 965-3961. This list will also be included periodically in *Arizona Business*.

Arizona Leading Index Flat in April

The Arizona Index of Leading Economic Indicators was unchanged in April at 110.7 (see Figure 1). The index is slightly above the April 1987 value of 110.4 (1977 = 100).

The index, sponsored by Citibank (Arizona), is based on 10 economic indicators, combined and weighted to project the pace of economic activity several months ahead. Five of the components come from a monthly survey of Arizona purchasing managers done by Dr. Harold Fearon.

Providing the biggest boost to the index was a fall in seasonally adjusted unemployment insurance claims (see Table 1). The money supply, sensitive prices and new orders were also positive influences. Production and employment were neutral in April after exerting a mild positive influence in March. The negative components were residential building permits, delivery times, inventories and average hours worked in manufacturing.

RECENT PERFORMANCE

Figure 1 gives graphic evidence of the restricted range over which the index has moved during the last 16 months. The index has varied within a relatively narrow band marked by a high point of 111.2 (October 1987) and a low point of 110.1 (December 1987). Examination of the monthly net contributions of the seasonally adjusted individual series gives some insight into the lack of variability in the index.

Perhaps the strongest force inhibiting growth of the index has been the residential building permit component, a net negative contributor in ten of the last sixteen months. Declines in five months exceeded 10 percent. The construction industry has lost 23,400 jobs since reaching its peak employment in June 1986.

Sensitive prices, one of two national indicators included in the index, also was a net negative contributor in ten of the last sixteen months, but only three of those months yielded declines exceeding 10 percent.

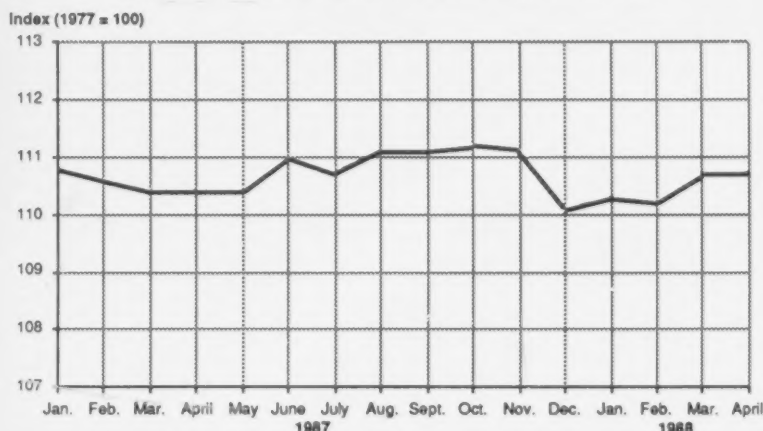
The other eight components of the index do not show any clear pattern of movement over the past 16 months. Delivery time was evenly split between eight positive months and eight negative months. Inventory levels and average hours worked had nine positive months and seven negative months. New orders and unemployment insurance claims each gained during nine months, decreased in six months and had one month with no change. The national money supply and production turned in eight positive months, seven negative months and one month unchanged. Employment increased in eight months, declined during six and was unchanged in two neutral months.

OUTLOOK

The severe weakness in the Arizona construction industry is balanced against the moderate strength of the overall economy shown in the other index components. The current outlook for the remainder of 1988 is as it has been for the recent past — one of slow positive growth for Arizona.

— Tracy L. Clark, Economist
Economic Outlook Center

FIGURE 1
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Economic Outlook Center, College of Business, Arizona State University; sponsored by Citibank (Arizona).

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution*			
	Jan.	Feb.	Mar.	Apr.
Delivery Time*	.09	.03	-.09	-.03
Inventory Levels*	.04	.06	-.02	-.06
New Orders*	-.05	.02	.01	.04
Production*	.02	-.08	.06	.00
Employment*	-.02	-.09	.01	.00
Residential Building Permits	-.12	-.10	.31	-.30
Unemployment Insurance Claims	.13	-.23	.05	.21
Average Workweek, Manufacturing	-.02	.05	.07	-.05
Money Supply	.23	.26	.11	.16
Change in Sensitive Materials Prices	-.09	-.07	.00	.03
OVERALL INDEX CHANGE (%)	.21	-.15	.51	.00

* The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Economic Outlook Center, College of Business, Arizona State University; sponsored by Citibank (Arizona).

New Business Start-Ups Decline in 1987

The number of new businesses started by metropolitan Phoenix entrepreneurs declined 9.2 percent during 1987. Despite a strong fourth quarter surge in start-ups (see Figure 1), only 3,325 new firms were started in 1987, compared to 3,662 during 1986.

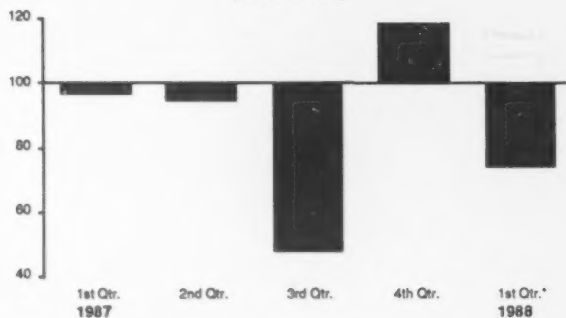
The increase in start-up activity brought the fourth quarter Metro Phoenix New Business Index to 120 (1986 = 100), recovering from a third quarter level of only 48.

The index measures new business start-ups, excluding franchises, branches, and relocations. Data are obtained through a cooperative agreement between the *Arizona New Business Review* and the Center for Business Research.

The accelerated pace of start-up activity appears short-lived however. Preliminary figures for first quarter 1988 show a drop in the index to 75. (Final figures will be available in October).

Fourth quarter 1987 start-ups showed the most activity in finance,

FIGURE 1
METROPOLITAN PHOENIX NEW BUSINESS INDEX
(1986 = 100)



*Preliminary estimate, based on incomplete data

Source: *Arizona New Business Review* and the Center for Business Research, College of Business, Arizona State University

real estate, insurance, and services, with new firms up approximately 40 percent over fourth quarter 1986. Construction start-ups during the fourth quarter were at a pace only three-fourths that of the final quarter of 1986.

— Lee R. McPheters
— Yolanda Strozler

Dr. McPheters is Professor of Economics and Director of the Economic Outlook Center. Ms. Strozler is a recent Economics graduate.

First Quarter Home Sales Fall

Home sales in Maricopa County, particularly new home sales, declined in first quarter 1988 to a level lower than in any quarter since the beginning of 1983. However, all may not be doom and gloom in the housing market; higher home sales are predicted for the balance of the year.

First quarter 1988 home sales totaled 10,125, falling 21 percent from fourth quarter 1987 and 23 percent from first quarter 1987. New home sales declined more than resales — 43 percent from the prior quarter and 52 percent from the previous year's first quarter. The median price of all homes sold fell 3 percent from the prior quarter, returning prices to a level between the first and second quarters of 1987.

Many factors combined to produce the low sales volume. The recent decline in population in-migration, fewer first-time homebuyers, a

lack of pent-up demand, and possibly the stock market scare would all be expected to reduce sales volume.

The Phoenix area housing market is undoubtedly changing, as seen by homebuyers' responses to recent market conditions. Prices and interest rates typically have been important determinants of housing demand, but their effects have diminished recently. Housing inventory available for sale has been increasing, contributing to the reduction in pent-up demand. Both foreclosures and builder bankruptcies are on the rise, allowing buyers more "bargains" to choose from and lowering overall price levels. However, buyers have been less apt to jump into the market when prices or interest rates fall. This reluctance was evidenced in first quarter 1988 when prices fell and interest rates were at historically low levels, but the sales

volume dropped substantially rather than rising.

A portion of the decline in home sales may be attributable to the reduced volume of Arizona migrants. Net in-migration fell throughout 1987; the fourth quarter trough of 4,000 was the lowest since 1982. Net in-migration increased to 7,000 in first quarter 1988, still lower than the long-term average of 11,000 per quarter. Even though migration has slowed, the growth rates in both job creation and in-migration are still respectable (better than the national rate) but lower than the levels the Phoenix area generally has experienced during the past few years. In-migration has an impact on the housing market, since newcomers typically account for one-fourth to one-third of total home sales.

The aging of the baby-boom generation is also starting to work against housing. The baby-bust

generation is replacing the baby-boom generation, causing a reduction for the first time since the late 1960s in the number of young persons typically considered to be first-time homebuyers. This trend may be partially offset by an increase in the number of homes purchased by non-traditional household types, particularly single buyers and female heads of households.

Further, the volume of building permits issued declined throughout 1987. Only 3,081 new single-family housing units were authorized during the fourth quarter, the lowest quarter since 1982. Following the typical seasonal pattern, building permits rebounded slightly in first quarter 1988; 3,783 single-family units were authorized.

CONTRAST OF NEW/RESALE MARKET RESPONSES

The markets for new and resale homes have differed recently in their response to reduced demand. The median resale single-family home price increased from \$75,000 in first quarter 1987 to its peak of \$79,700 in third quarter 1987. Prices then fell to the first quarter 1988 level of \$76,500, a 2 percent annual increase. The number of single-family homes resold fell 7 percent during 1987.

In contrast, the median price of new single-family homes rose each of the five quarters since first quarter 1987, though the rate of increase

slowed each quarter. Prices rose from \$92,050 in first quarter 1987 to \$103,450 in first quarter 1988, 12 percent overall. However, part of the new-home price increase reflects the trend to purchase larger homes with more amenities. The new single-family sales volume plunged 46 percent from the same quarter last year.

The median price of resale townhouses/condominiums has also been relatively steady since first quarter 1988. Sales dipped 9 percent from the prior quarter and rose 3 percent from the previous year's first quarter.

New townhouse/condominium prices declined 11 percent from the prior quarter during first quarter 1988, returning to a price level only 1 percent higher than first quarter 1987. Sales of new units plummeted 58 percent from the prior quarter and 74 percent from first quarter 1987.

FORECAST

Interest rates have risen slightly throughout April and May, but analysts are split as to the future direction of any changes. The AREC anticipates that rates for a 30-year, conventional, fixed-rate mortgage will likely top 11 percent during the second quarter of 1988, but probably will not climb much higher throughout the rest of the year. Net in-migration can be expected to rise somewhat during the balance of 1988, to about 8,000 per quarter, but should remain below the long-term average of 11,000 per quarter. Even with slightly higher interest rates, a positive market environment coupled with higher job creation and in-migration should allow home sales to improve during 1988, but still be lower than 1987.

— **Sharla Klivett**, *Research Analyst*
Arizona Real Estate Center

The numbers in this article represent a new data series, inconsistent with that used prior to this issue. Both the data source and the method of computer processing have been changed, primarily to improve the reporting of the number of new home sales. As previously reported, the prior numbers underestimated the number of new homes sold while overestimating resale homes.

In a future article, additional history will be provided from the new data source, as well as seasonally adjusted numbers. If you desire additional information about this change or prefer numbers consistent with the old series until the new history is available, please write the Arizona Real Estate Center, College of Business, Arizona State University, Tempe, Az 85287, or call (602) 965-5440.

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single-Family			Townhouse/Condominium			Grand Total
	Resale	New	Total	Resale	New	Total	
Median Sales Price							
Quarter 1, 1987	\$75,000	\$92,050	\$81,400	\$63,000	\$70,950	\$66,000	\$78,500
Quarter 2, 1987	77,500	94,650	84,000	64,000	74,650	67,000	80,725
Quarter 3, 1987	79,700	100,200	86,000	62,000	75,550	64,900	82,000
Quarter 4, 1987	77,500	102,400	85,700	63,350	80,625	66,500	82,500
Quarter 1, 1988	76,500	103,450	84,000	63,000	71,900	64,825	79,900
Number of Sales							
Quarter 1, 1987	6,525	3,975	10,500	1,550	1,050	2,600	13,100
Quarter 2, 1987	9,725	4,350	14,075	2,225	1,025	3,250	17,325
Quarter 3, 1987	8,925	3,550	12,475	2,225	650	2,875	15,325
Quarter 4, 1987	6,825	3,575	10,400	1,750	650	2,400	12,800
Quarter 1, 1988	6,075	2,150	8,225	1,600	275	1,875	10,125

Note: All numbers rounded to nearest 25; subcategories may not add to total due to rounding.

Source: Arizona Real Estate Center, College of Business, Arizona State University; from data supplied by Real Estate Evaluation Group, Chandler, Az.

Housing Affordability Surges in First Quarter

Affordability of Phoenix area homes rose during first quarter 1988, the first time the index has shown improvement since first quarter 1987. Lower interest rates and home prices, as well as higher household incomes, contributed to the higher level of affordability.

The index for resale homes improved more than the new home index, jumping to 123 from 114 the prior quarter; the index for new homes rose from 86 to 91. Even though affordability of both new and resale homes improved during first quarter 1988, neither reached their first quarter 1987 level.

An index of 100 or more indicates that a median-income household is able to qualify for a median-priced home. During first quarter 1988, a median-income household could afford a \$94,350 home — more than the \$76,500 median-priced resale home, but less than the \$103,450 median-priced new home.

COMPONENT CHANGES

Throughout the 1980s, variations in mortgage interest rates have had greater impact on housing affordability than fluctuations in either home prices or household incomes. During first quarter 1988, the effective mortgage interest rate (contract rate plus fees and charges, or "points") fell to 10.7 percent, in line with both second and third quarters 1987, but lower than fourth quarter 1987. Even though home prices traditionally have not greatly affected the affordability index, their importance has grown during the past year. Price increases on new homes were greater than gains in household in-

come each quarter of 1987, though prices increased less than income during first quarter 1988. Resale home prices fell during the last two quarters, further improving resale affordability.

NATIONAL AFFORDABILITY

The affordability of homes also improved nationally during the first quarter, though both the level of affordability and the amount of improvement were less than in the Phoenix area. New home affordability rose from 78 to 86; the affordability of resale homes improved from 103 to 106.

Both median home prices and their rates of increase were considerably different nationally than in the Phoenix area. From first quarter 1987 to first quarter 1988, resale homes increased from \$84,300 to \$88,200, almost 5 percent. Phoenix area resales rose only 2 percent, falling the last two quarters to end at \$76,500.

Despite falling during first quarter 1988, new home prices increased 11 percent nationally during the year, from \$97,900 to \$109,000. Phoenix area new home prices rose

each quarter, ending at \$103,450 during first quarter 1988, an annual increase of 12 percent.

OUTLOOK

Mortgage rates should once again provide the key to affordability. Interest rates are currently experiencing upward pressure, but the AREC does not expect them to climb much above 11 percent during 1988.

Local new home price gains lost momentum during the first quarter; prices probably will not rise much during the next few months unless demand for new homes increases unexpectedly.

Resale home prices fell 4 percent between third quarter 1987 and first quarter 1988, further widening the spread in affordability between new and resale homes. Prices probably will not continue falling in the resale market unless market conditions become worse than expected. With little change expected in either new or resale home prices, affordability should drop just slightly, due to somewhat higher interest rates.

— Sharla Kivett, *Research Analyst*
Arizona Real Estate Center

The data used to calculate the home prices for the Phoenix area comes from a new data source, inconsistent with our prior series (see Home Sales, p.4). The new series provides a more accurate breakdown between new home sales and resales. By counting some new homes as resale homes, the previous series overstated the median price of resale homes, while understating the price of new homes. The new, lower median price of resale homes raises their affordability index, while the higher new home price lowers new home affordability. If you have any questions, please write the Arizona Real Estate Center, College of Business, Arizona State University, Tempe Az. 85287 or call (602) 965-5440.

TABLE 2
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix; Single-family Only

Quarter	Median Gross Monthly Income	Effective Interest Rate	Resale Homes			New Homes		
			Median Sales Price	Monthly Housing Payment	Affordability Index	Median Sales Price	Monthly Housing Payment	Affordability Index
1st 1987	\$2,920	9.4%	\$75,000	\$630	130	\$92,050	\$770	106
2nd 1987	2,970	10.6	77,500	710	116	94,650	870	95
3rd 1987	3,020	10.8	79,700	750	113	100,200	940	90
4th 1987	3,080	11.3	77,500	760	114	102,400	1,000	86
1st 1988	\$3,130	10.7%	\$76,500	\$710	123	\$103,450	\$960	91

Source: Arizona Real Estate Center, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board News.

Construction Activity Slows During First Quarter

With \$1 billion in permitted activity (20,498 permits), the Arizona construction industry reported its lowest quarterly value of building permits since third quarter 1983 (\$906 million). In contrast, building permits valued at \$1.1 billion (19,852 permits) were issued during the fourth quarter while construction activity totaled \$1.2 billion (24,041 permits) during first quarter 1987. As shown in Table 1, some key sectors showed improvement over the fourth quarter but were below their respective levels of first quarter 1987.

While no single sector dominated construction activity, Pima and Maricopa Counties together accounted for 85 percent of the recorded activity. Maricopa County represented 71 percent of the total activity, with 12,340 permits worth \$723 million. With 14 percent of the total, Pima County recorded 2,811 permits valued at \$137 million.

More than 80 percent of the total construction activity occurred in the 12 reporting areas listed in Table 2. Of these 12 areas, only Peoria (\$35 to \$54 million) and unincorporated Yavapai County (\$12 to \$22 million) reported increased activity from a year ago. Other non-metropolitan communities recorded improvement compared to first quarter 1987: Flagstaff (\$7.6 to \$9.8 million), Lake

Havasu City (\$10.8 to \$12.5 million), Bullhead City (\$4.1 to \$6.8 million), Prescott (\$7.8 to \$10.5 million) and Yuma (\$3.9 to \$9.5 million).

SECTORAL ACTIVITY

Residential

Even though mortgage interest rates declined during the first quarter (10.8 to 10 percent), they remained well above the 9 percent level evident in the first few months of 1987. Single-family permits in Maricopa County fell 28 percent from a year ago (5,242 to 3,783 permits) but were up 23 percent over the fourth quarter (3,081 permits). In comparison to a year ago, only Gilbert experienced an increase (237 to 290 permits), while unincorporated Maricopa County recorded a 47 percent decrease from 1,134 permits to 597 permits. A similar pattern prevailed in Scottsdale (437 to 229 permits).

The number of new single-family homes authorized in Pima County (811) barely exceeded the fourth quarter figure (758) and was well below the 1,132 permits recorded a year ago. Over 60 percent (508) of the issued permits were in unincorporated Pima County with only 22 percent (180) being within Tucson. Oro Valley became an active resi-

dential area with 120 permits, in comparison to 26 a year ago and 67 in the fourth quarter. Other areas reporting improvement over last year were Flagstaff (63 to 89 permits), Lake Havasu City (120 to 152 permits) and Prescott (56 to 104 permits).

Commercial

As expected, the apartment sector in Maricopa County slowed, with only 629 units authorized (see Table 3), the lowest level since fourth quarter 1981 (607 units). Permit activity was not consistent with nearly all of the permits being issued in March in Phoenix and Scottsdale.

In contrast to Maricopa County, apartment activity in Pima County showed improvement over the fourth quarter (6 to 1,037 units). The predominant areas of activity were Tucson (611 units) and Oro Valley (240 units). In the rest of Arizona, only Globe (40 units) and Bullhead City (24 units) authorized more than a few apartment units.

The value of office building permits has steadily decreased in Maricopa County from \$165 million in the second quarter of last year to only \$26 million (47 permits) in first quarter 1988. Most of the first quarter activity was in Phoenix (\$19 million) followed by Scottsdale (\$4 mil-

TABLE 1
KEY SECTOR CONSTRUCTION ACTIVITY
(First Quarter 1988, Fourth Quarter 1987, and First Quarter 1987)

COMMERCIAL

	SINGLE FAMILY		APARTMENTS ^a		OFFICE BUILDINGS ^b		RETAIL STORES ^c		INDUSTRIAL	
	Number of Permits	Dollar Value (\$000)	Number of Units	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)
Maricopa County										
First Quarter, 1988	3,783	353,309	629	29,546	47	25,772	178	70,649	41	16,111
Fourth Quarter, 1987	3,081	343,503	2,513	118,815	68	39,617	145	33,836	27	10,078
First Quarter, 1987	5,242	430,044	1,778	63,779	70	86,940	216	73,363	47	30,512
Pima County										
First Quarter, 1988	811	58,068	1,037	32,566	34	3,627	14	4,372	3	601
Fourth Quarter, 1987	758	54,952	6	237	15	3,182	14	2,058	3	106
First Quarter, 1987	1,132	73,017	822	19,717	17	14,172	27	16,615	6	1,157
Rest of Arizona										
First Quarter, 1988	1,168	73,069	79	2,805	31	5,838	68	14,314	11	11,222
Fourth Quarter, 1987	1,076	69,437	128	3,727	22	1,698	41	3,994	8	769
First Quarter, 1987	1,178	69,650	186	17,673	19	1,510	69	11,931	23	3,971
Arizona Total										
First Quarter, 1988	5,762	484,446	1,745	64,917	112	35,237	260	89,335	55	27,934
Fourth Quarter, 1987	4,915	467,892	2,647	122,779	105	44,497	200	39,888	38	10,953
First Quarter, 1987	7,552	572,711	2,786	87,993	106	102,622	312	101,909	76	35,640

^a Five or more housing units

^b Office, bank, medical and professional buildings

^c Shopping centers and other mercantile buildings

Source: Arizona Real Estate Center and Center for Business Research, College of Business, Arizona State University

lion) and Mesa (\$2 million). In Pima County, the \$3.6 million in office building permits was fairly evenly split between Tucson (\$1.9 million) and the unincorporated area (\$1.7 million). In the rest of Arizona, office building activity increased to nearly \$6 million with the leading area being Flagstaff (\$3 million).

As shown in Table 1, the retail sector in Maricopa County posted a strong increase with Phoenix (\$31 million) and Scottsdale (\$15 million) being the primary areas of development. Tucson was the location of \$3.4 million of the \$4.4 million in retail building permits in Pima County. When development in the metropolitan counties slows, it frequently increases in the non-metropolitan areas. This pattern was apparent in the first quarter, led by retail development in Casa Grande (\$4 million) and unincorporated Pinal County (\$4 million).

The hotel/motel sector followed the pattern of other commercial sectors with improved activity over the fourth quarter (\$10 to \$14 million), but values remained well below the level of a year ago (\$36 million).

Industrial

Industrial building permits worth \$16 million were authorized in Maricopa County, slight improvement over the \$10 million issued in the fourth quarter but well below the \$31 million recorded a year ago. Phoenix (\$8 million) and Tempe (\$6 million) continued to be the primary areas for industrial construction.

In Pima County, industrial development continued below the \$1 million level (see Table 4). This sector in the non-metropolitan areas frequently is greatly affected by a few large projects, as was especially evident during the first quarter. One industrial permit, valued at \$7 million, was issued in unincorporated Yavapai and 4 permits, worth \$3 million, were recorded in Yuma.

Other

This sector encompasses diverse areas such as educational facilities, religious buildings and health care facilities. Construction of new schools continued at a strong pace with a total of \$23 million permitted, primarily in Maricopa County (\$18 million). Most of the \$30 million in new health care facilities was permitted in the metropolitan areas of Peoria (2 permits for \$24 million) and unincorporated Pima County (5 permits for \$3 million).

LOOKING AHEAD

The slowdown in construction activity was not unexpected. The decline was in response to reduced economic and population growth and excess supply in most sectors and areas. Construction activity has simply outpaced the growth of the economy and now must slow down to await a more positive economic environment.

Although less new home construction occurred during the first quarter, activity improved throughout the quarter. However, mortgage interest rates have started to increase (9.8 percent in March to 10.2 percent in April) and could again post an obstacle to further improve-

TABLE 2
REPORTING UNITS WITH
GREATEST TOTAL VALUE OF
BUILDING PERMITS
First Quarter, 1988

Reporting Unit	Value (in millions)
Phoenix	\$249
Scottsdale	124
Mesa	89
Unincorporated Maricopa County	82
Unincorporated Pima County	80
Tucson	57
Peoria	54
Tempe	42
Glendale	41
Chandler	30
Gilbert	30
Unincorporated Yavapai County	22

Source: Arizona Real Estate Center and Center for Business Research, College of Business, Arizona State University

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
First Quarter 1988

	One Family	Mobile Homes	Duplex	3-4 Family	5 or More	Total
APACHE COUNTY	8	8	0	0	0	14
Percent Change, Previous Year	-23	-80	—	—	—	-42
Percent Change, Previous Qtr.	-11	-85	—	—	—	-30
COCHISE COUNTY	98	18	0	0	0	97
Percent Change, Previous Year	-42	-74	—	—	—	-55
Percent Change, Previous Qtr.	-22	-53	—	—	—	-31
COCONINO COUNTY	142	54	8	3	0	205
Percent Change, Previous Year	13	-7	—	—	—	11
Percent Change, Previous Qtr.	5	-35	-57	-25	—	-38
GILA COUNTY	80	48	0	0	40	148
Percent Change, Previous Year	-13	0	—	—	—	26
Percent Change, Previous Qtr.	20	17	—	—	—	83
GRAHAM COUNTY	18	56	0	0	0	74
Percent Change, Previous Year	29	37	—	—	—	-17
Percent Change, Previous Qtr.	20	12	—	—	—	14
GREENLEE COUNTY	1	0	0	0	0	1
Percent Change, Previous Year	—	—	—	—	—	—
Percent Change, Previous Qtr.	—	—	—	—	—	—
LA PAZ COUNTY	8	52	0	0	0	60
Percent Change, Previous Year	0	-12	—	—	—	-10
Percent Change, Previous Qtr.	300	44	—	—	—	58
MARICOPA COUNTY	3,783	351	32	19	829	4,814
Percent Change, Previous Year	-28	-23	-20	-80	-65	-37
Percent Change, Previous Qtr.	23	-20	300	-53	-75	-21
MOHAVE COUNTY	302	319	8	3	30	680
Percent Change, Previous Year	5	4	—	0	-3	5
Percent Change, Previous Qtr.	8	-58	0	—	—	-17
NAVAJO COUNTY	45	36	0	0	0	81
Percent Change, Previous Year	-4	71	—	—	—	7
Percent Change, Previous Qtr.	-29	-44	—	—	—	-38
PIMA COUNTY	811	18	8	6	1,037	1,880
Percent Change, Previous Year	-28	-89	-80	-63	26	-14
Percent Change, Previous Qtr.	7	-14	0	-54	17,183	133
PINAL COUNTY	88	137	0	0	0	223
Percent Change, Previous Year	-9	27	—	—	—	4
Percent Change, Previous Qtr.	6	32	—	—	—	-9
SANTA CRUZ COUNTY	35	105	0	3	0	143
Percent Change, Previous Year	-3	3,400	—	-57	—	211
Percent Change, Previous Qtr.	13	-72	—	-25	—	-65
YAVAPAI COUNTY	312	114	4	9	9	448
Percent Change, Previous Year	22	-15	-71	-75	-86	-11
Percent Change, Previous Qtr.	42	-54	-80	13	—	-7
YUMA COUNTY	82	184	0	0	0	266
Percent Change, Previous Year	-35	28	—	—	—	-13
Percent Change, Previous Qtr.	-14	17	—	—	—	3
TOTAL, ARIZONA	5,782	1,498	58	43	1,745	8,104
Percent Change, Previous Year	-24	-8	-40	-75	-37	-26
Percent Change, Previous Qtr.	17	-31	12	-48	-34	-8

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Arizona Real Estate Center and Center for Business Research, College of Business, Arizona State University

ment in single-family home construction.

The fundamental factors that will affect all aspects of the construction industry are the current and expected performance of the Arizona economy and respective market conditions for each of the construction sectors. No major economic forces are apparent that would stimulate activity to much higher levels. There are, however, two factors which could affect the level of activity in coming quarters. The first is built on expectations of the return of faster economic and population growth,

especially in Maricopa County. Some major retail and office building projects could be permitted in coming months, creating some temporary upswings in recorded activity. These projects will not be completed for one-to-two years when the market is expected to be better. The second factor is that development typically improves in the non-metropolitan areas as it slows in the metropolitan counties. This pattern, especially evident in retail sectors, probably will become more prevalent in the multifamily sector as well.

Construction activity in the first quarter demonstrated some maturity on the part of the industry as it responded to limited economic and market potential. Construction activity probably will continue to be slow during the year as developers examine where the real strength and demands of the Arizona real estate market lie.

— Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate and Director of the Arizona Real Estate Center in the ASU College of Business.

TABLE 4
ARIZONA BUILDING PERMITS
First Quarter 1988

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)
APACHE COUNTY	25	588	5	178	0	0	1	19	31	783
Percent Change, Previous Year	-7	-25	400	-29	—	—	-75	27	-3	-25
Percent Change, Previous Qtr.	-4	-27	0	-33	—	—	—	—	0	-27
COCHISE COUNTY	217	4,348	11	278	0	0	186	458	394	5,080
Percent Change, Previous Year	-35	-41	-50	-80	—	—	-13	-55	-28	-54
Percent Change, Previous Qtr.	-17	-20	-39	-31	—	—	4	-41	-10	-33
COCONINO COUNTY	306	10,811	30	4,125	2	426	115	1,288	456	18,450
Percent Change, Previous Year	17	-2	-15	154	100	1,274	19	-4	15	19
Percent Change, Previous Qtr.	-23	-28	-27	-2	100	965	-22	-82	-23	-37
GILA COUNTY	185	5,153	18	1,993	0	0	33	391	234	7,527
Percent Change, Previous Year	-10	-2	-52	-35	—	—	-23	220	-18	-12
Percent Change, Previous Qtr.	13	28	129	1,189	—	—	18	27	18	85
GRAHAM COUNTY	120	2,183	9	80	0	0	17	86	148	2,269
Percent Change, Previous Year	14	38	-25	-98	—	—	113	313	18	-18
Percent Change, Previous Qtr.	-2	9	13	-82	—	—	-23	-85	-4	-11
GREENLEE COUNTY	1	70	0	0	0	0	0	0	1	70
Percent Change, Previous Year	0	—	—	—	—	—	—	—	0	—
Percent Change, Previous Qtr.	—	—	—	—	—	—	—	—	—	—
LA PAZ COUNTY	109	1,479	5	117	0	0	45	86	159	1,662
Percent Change, Previous Year	-18	-4	-58	-75	—	—	5	-49	-14	-32
Percent Change, Previous Qtr.	-12	98	-17	38	—	—	88	-18	3	80
MARICOPA COUNTY	6,224	373,580	500	171,189	41	18,111	5,575	182,308	12,340	723,186
Percent Change, Previous Year	-28	-17	-17	-40	-13	-47	-11	25	-20	-19
Percent Change, Previous Qtr.	15	3	-18	-33	52	80	8	9	10	-7
MOHAVE COUNTY	1,018	25,568	31	2,583	1	72	309	3,992	1,369	31,925
Percent Change, Previous Year	7	15	-26	2	-58	-87	18	48	7	8
Percent Change, Previous Qtr.	-4	9	24	-3	0	-5	18	29	1	10
NAVAJO COUNTY	175	4,190	14	808	0	0	53	88	242	5,184
Percent Change, Previous Year	51	20	27	4	—	—	279	-16	72	16
Percent Change, Previous Qtr.	-13	2	17	-8	—	—	141	529	3	2
PIMA COUNTY	1,541	63,054	118	42,053	3	601	1,149	30,919	2,811	136,627
Percent Change, Previous Year	-21	-21	18	-18	-50	-48	-25	5	-22	-15
Percent Change, Previous Qtr.	7	7	39	183	0	487	-15	-42	-2	8
PINAL COUNTY	358	8,889	49	11,972	0	0	168	1,496	565	22,140
Percent Change, Previous Year	3	2	40	981	—	—	-7	52	2	104
Percent Change, Previous Qtr.	22	18	7	212	—	—	-29	-88	0	37
SANTA CRUZ COUNTY	148	2,091	3	218	0	0	9	82	158	2,391
Percent Change, Previous Year	258	10	-30	-32	—	—	200	84	218	7
Percent Change, Previous Qtr.	-65	25	0	81	—	—	0	-82	-83	18
YAVAPAI COUNTY	870	23,485	49	4,528	4	7,251	214	3,087	937	36,331
Percent Change, Previous Year	21	21	-4	-51	33	4,118	5	53	18	25
Percent Change, Previous Qtr.	-4	27	308	280	100	3,919	-13	-83	-3	0
YUMA COUNTY	382	10,239	22	2,157	4	3,473	237	1,839	645	17,518
Percent Change, Previous Year	-2	-4	47	17	33	2,920	-7	0	-3	22
Percent Change, Previous Qtr.	-5	2	-33	-53	33	6,988	19	-33	1	2
TOTAL, ARIZONA	11,457	535,254	885	342,385	55	27,934	8,121	205,590	20,498	1,011,143
Percent Change, Previous Year	-17	-14	-12	-33	-29	-32	-11	21	-15	-15
Percent Change, Previous Qtr.	4	4	-6	-18	45	155	3	-14	3	-4

*Includes mobile homes

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

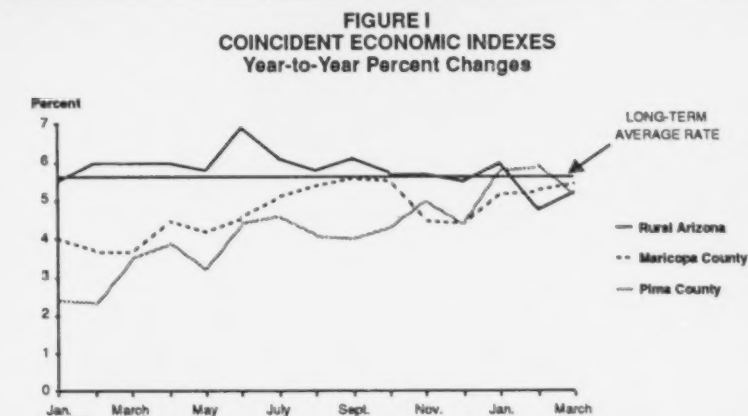
Source: Arizona Real Estate Center and Center for Business Research, College of Business, Arizona State University

Coincident Indexes Rise in March

Economic growth during March ranged from slightly faster than average in Maricopa County to somewhat slower than normal in Pima County. During the first three months of 1988, the Phoenix area outpaced the rest of the state, but the rate of economic growth minimally exceeded the long-term average throughout Arizona. This rapid expansion in the Phoenix area merely offset very slow growth during late 1987.

The coincident economic index for the Phoenix area rose 0.8 percent in March to a record 144.2 (1982 = 100). The gain in non-urban Arizona matched the long-term average of 0.5 percent, placing its index at a high of 133.1. The coincident index for the Tucson area advanced 0.3 percent to a record 139.5.

The Phoenix area index rose the most in March as the value of commercial building permits jumped from the depressed level of the preceding four months and retail sales, employment and the unemployment rate all improved modestly. In the Tucson area, the index gained less because the value of building permits did not climb as much as in Phoenix, employment declined slightly, and the



Source: Center for Business Research, College of Business, Arizona State University

unemployment rate was unchanged. While the unemployment rate in rural Arizona fell substantially, each of the other components were essentially flat.

In the 12 months ending in March, economic growth throughout the state was near average (see Figure 1). Barely subpar growth likely will continue for at least several more months, as indicated by the leading

index, which remains nearly unchanged. The construction industry likely will decline further; the manufacturing industry has not yet shown any sign of improvement.

The composite statewide measure climbed 0.6 percent in March to a record 141.3.

— Tom R. Rex
Research Manager

Further Growth Foreseen from May Purchasing Indicators

The expansion continues to roll along, although the overall rate of increase in May was somewhat lower than in April, according to the monthly survey of purchasing managers. New order receipts grew at a slower rate, but output continued to expand at a strong pace and the employment increase was the largest in close to a year. Prices also registered a strong upward move, although the overall rate of increase in May was somewhat lower than in April.

New orders, production, and employment should continue to move up, fueled by continued strong consumer and business demand. Inventory levels probably will remain moderate, since firms will have difficulty obtaining items in larger quantities than needed to support their immediate needs. Inventory levels of purchased materials dropped in May for the first time in nearly a year, probably due to the inability of firms to replenish their stocks as rapidly as they are being consumed.

TABLE 1
MAY PURCHASING SURVEY

Key Indicators	Percent of Purchasing Managers Indicating Each Response (May compared to April)		
	Higher	Same	Lower
Prices paid for major commodities.....	50	47	3
Delivery time from vendors.....	39	58	3
Purchased materials inventory level.....	26	45	29
New orders received.....	40	33	27
Production.....	38	48	14
Employment.....	28	61	11
Purchases.....	41	33	26

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona

The combination of higher output and employment likely will create strains on resource availability. This could generate heightened inflationary forces that inevitably would start to put the brakes on the long-running economic expansion. All of the monthly increases in the first five months of 1988 were greater than in any of the months of 1987, showing that inflationary pressures are

mounting and could become a serious problem in the latter half of the year.

— Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

GSP Growth Slumps in 1987

The Arizona Gross State Product expanded only 4.6 percent during 1987, the slowest inflation-adjusted growth since 1982. Not since the mid-1960s has GSP grown slower in a non-recessionary year than the 5.6 percent long-term average. Adjusted GSP, which excludes the volatile mining and agriculture industries, expanded faster than GSP in each year between 1983 and 1986, but rose only 4.1 percent in 1987 (see Table 1).

During 1987, the current expansion became the longest ever during peacetime. By the end of the year, however, total growth (43 percent) had not matched the 44 percent of the 1975-80 expansion. Weakness in agriculture and mining during the 1980s held down overall growth; adjusted GSP growth set a peacetime record, rising 48 percent, compared to 42 percent in the late 1970s.

The Arizona economy slowed sharply in 1987 while national economic growth accelerated (see Table 2). At the end of the year, annual growth of adjusted GSP did not exceed that of Gross National Product, a rare occurrence. Except during recessions, the Arizona economy generally expands at least twice as fast as the national economy.

SECTORAL GROWTH AND SHARES

GSP before inflation-adjustment totaled \$57 billion in 1987. The finance, insurance and real estate (FIRE) industry continued as Arizona's largest (see Figure 1), widening its margin over services and trade. These three industries accounted for more than one-half of GSP.

While growth in most industries slowed during 1987, worsening conditions in the construction and manufacturing industries were most responsible for the overall deceleration. Much improved conditions in the agriculture industry largely offset slower growth in trade, services and government (see Figure 1).

Conditions varied substantially by industry. Construction entered a recession after posting little growth in 1986; mining's gross product declined for the third straight year and for the fifth time in the last six years. In contrast, FIRE's growth rate accelerated slightly to a strong 9 percent.

DEFLATORS

Inflation measured by the Arizona GSP deflator nearly doubled from 1986 to 1987, swinging from less to

TABLE 1
ANNUAL ECONOMIC GROWTH

Annual	Arizona Gross State Product [*]				Gross National Product
	Billions of Current Dollars	Billions of 1982 Dollars	Percent Change (1982 Dollars)	Percent Change (Adjusted GSP) [*]	Percent Change (1982 Dollars)
1982	34.266	34.254	-3.2	-1.9	-2.5
1983	37.789	36.218	5.7	7.9	3.6
1984	43.205	40.001	10.4	10.7	6.8
1985	48.049	43.047	7.6	8.5	3.0
1986	52.455	46.030	6.9	7.3	2.9
1987	57.027	48.155	4.6	4.1	2.9

^{*}The adjusted GSP is the GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[†] Revised

TABLE 2
QUARTERLY ECONOMIC GROWTH

Quarter	Arizona Gross State Product				Gross National Product
	Billions of Current Dollars, Annualized	Quarterly Percent Change (1982 Dollars)	Quarterly Percent Change (Adjusted GSP) [*]	Annual Percent Change (Adjusted GSP) [*]	Annual Percent Change (1982 Dollars)
First 1986	51.694	3.1	2.9	8.3	3.6
Second 1986	52.059	0.9	1.1	7.8	3.3
Third 1986	52.573	0.4	0.8	6.4	2.6
Fourth 1986	53.496	2.0	2.1	6.9	2.2
First 1987	55.468	0.4	-0.4	3.6	2.0
Second 1987	56.790	2.2	1.8	4.3	2.4
Third 1987	57.793	1.1	1.1	4.7	3.2
Fourth 1987	58.055	-0.1	1.4	4.0	4.0

^{*}The adjusted GSP is the annualized GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[†] Revised

Source (Tables 1 and 2): Center for Business Research, College of Business, Arizona State University. GNP data are from the U.S. Department of Commerce, Bureau of Economic Analysis.

more than the national average. The acceleration to nearly 4 percent resulted primarily from agricultural and copper prices rising after years of decline. Most of the increase in copper prices occurred in the fourth quarter, when the deflator registered its biggest increase since 1981.

EMPLOYMENT AND PRODUCTIVITY

Employment growth continued to slow from the 1984 peak, managing only a 3.5 percent increase in 1987. The deceleration was not as great as for GSP, which was affected not only by the employment situation but by a small increase in real output per employee. In 1986, output per employee advanced a strong 2.0 percent, with gains in most sectors, including a very large increase in manufacturing. Output per employee rose only 0.3 percent in 1987, with gains in only three sectors (see Figure III).

Though output per employee advanced 4.7 percent between the 1982 recession and 1987, it failed to attain the peak level of the early 1970s. In contrast, gains in the manufacturing industry exceeded 33 percent between 1982 and 1987, following a decade of virtually no change.

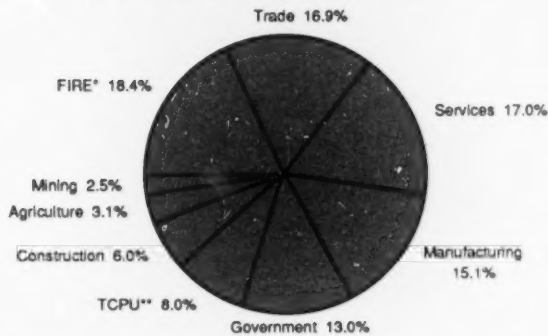
OUTLOOK

The Arizona economy is experiencing in 1988 its second straight subpar, but non-recessionary, year. Quarterly GSP growth is likely to be similar to that of 1987, but the 1988 annual average will be less, since it is starting the year from a lower growth rate. Annual growth may be less than 4 percent, barely exceeding the national average.

Other than the recession years of 1975 and 1982, the Arizona economy has outperformed the national economy in every year since the mid-1960s. Conditions in 1987-88, however, are similar to those in 1963-65, when the Arizona economy grew at below average rates, slower than the national economy. The key factor is that the Arizona construction industry is in decline while the rest of the local economy and the national construction industry are expanding.

— Tom R. Rex
Research Manager

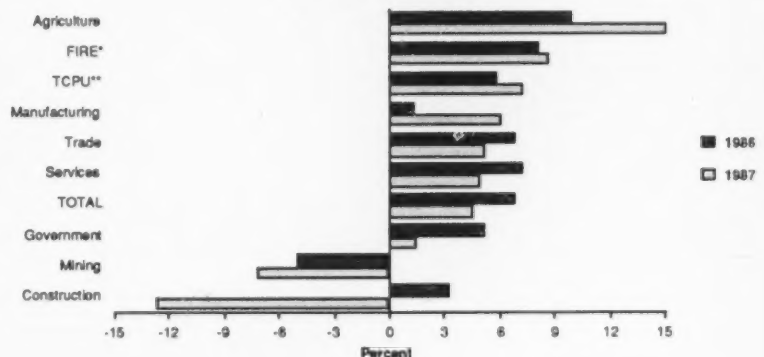
FIGURE I
ARIZONA GROSS STATE PRODUCT
1987 Sectoral Shares, in Current Dollars



*Finance, Insurance, and Real Estate

**Transportation, Communications and Public Utilities

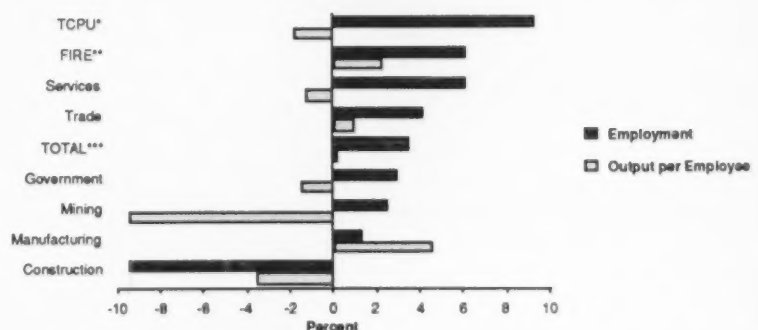
FIGURE II
REAL GSP GROWTH
By Sector, 1986-1987



*Finance, Insurance, and Real Estate

**Transportation, Communications and Public Utilities

FIGURE III
GROWTH OF EMPLOYMENT AND REAL OUTPUT PER EMPLOYEE
By Sector, 1987



*Finance, Insurance, and Real Estate

**Transportation, Communications and Public Utilities

***Excluding Agriculture

Source (Figures I, II and III): Center for Business Research, College of Business, Arizona State University

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	4th Qtr.	58.055	0.5	8.5	NA	NA
Arizona - 1982 Dollars	4th Qtr.	48.035	-1.2	3.5	NA	NA
COINCIDENT ECONOMIC INDEXES						
(1982 = 100)						
Arizona	March	141.3	0.6	5.4	NA	NA
Metropolitan Phoenix	March	144.2	0.8	5.5	NA	NA
Metropolitan Tucson	March	139.5	0.3	5.1	NA	NA
Non-urban Arizona	March	133.1	0.5	5.3	NA	NA
CONSUMER PRICE INDEX (1982-84 = 100)						
Metropolitan Phoenix	1st Qtr.	117.4	0.7	3.1	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	April	110.7	0.0	0.3	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	April	320,678	7	-21	1,043,864	-19
Pima County	April	44,111	-36	-26	180,738	-18
Balance of State	April	43,108	-41	-23	194,438	3
Arizona	April	407,897	-7	-22	1,419,040	-17
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	April	2,340	1	-1	7,154	-28
Pima County	April	465	-59	-26	2,345	-16
Balance of State	April	624	-29	-21	3,034	-6
Arizona	April	3,429	-20	-9	12,533	-21
HOME SALES						
Maricopa County - Number	April	4,450	37	14	14,860	-23
Maricopa County - Median Price	April	79,000	0	1.1	79,700	1.4
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	1st Qtr.	91	5.8	-14.2	NA	NA
Metropolitan Phoenix - Resale Homes	1st Qtr.	123	7.9	-5.4	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	May	10.4	2.0	-1.0	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	1st Qtr.	2,006	0.7	2.4	NA	NA
Arizona	1st Qtr.	3,463	0.6	2.2	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	March	3,110	7.3	2.6	9,341	6.4

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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